

6th. That their formation takes place by the aggregation of molecules (Amici, Meyen).

7th. That the cytoblasts, or embryonic vesicles, also contain a fluid more or less granular (globulo-cellular cambium,—Mirbel).

8th. That the pollen is always necessary for fertilization (apparent exception given by Smith).

9th. That the pollen, when applied to the stigma, sends out one or more tubes (prolongations of the intine), which contain granular matter (fovilla).

10th. That in most cases the union of the pollen-tube with the apex of the embryonic sac constitutes the very act of impregnation.

11th. That the result of this union is the formation of an embryo.

12th. That this formation takes place, either by the metamorphosis of one of the pre-existing germinal or embryonic vesicles under the dynamic influence of the fovilla (acting catalytically ?) ; or, as is more probable, by the union of the contents of the pollen-tube with that of a germinal vesicle, similar to what occurs in the conjugation of *Confervæ*. When two or more vesicles exist, as in *Orchis*, one only becomes fertilized, the remainder abortive.—*Proc. Edinb. Phys. Soc.*

METEOROLOGICAL OBSERVATIONS FOR JULY 1852.

Chiswick.—July 1. Fine: cloudy: slightly overcast. 2. Cloudy and fine. 3, 4. Very fine. 5. Excessively hot: thermometer higher in the shade than it has been for at least twenty-six years: lightning at night. 6. Very hot. 7. Cloudless: hot and dry. 8. Dry haze: sultry: clear at night. 9. Very hot. 10. Very fine. 11. Hot and clear. 12. Sultry. 13. Fine: lightning, with distant thunder at night. 14. Overcast: thunder: very hot: lightning, with rain at night. 15. Cloudy and fine: clear. 16. Slight haze: very hot: excessively heavy and constant rain at night. 17. Rain: cloudy and warm: clear at night. 18. Very fine: heavy clouds: clear. 19. Very fine. 20. Overcast. 21. Light clouds: very fine: clear. 22—24. Very fine. 25. Overcast: thunder: rain. 26. Cloudy and fine: clear. 27. Slight haze: very fine. 28—30. Very fine. 31. Heavy dew: very fine: cloudy.

Mean temperature of the month	67°·37
Mean temperature of July 1851	60·71
Mean temperature of July for the last twenty-six years ...	63·40
Average amount of rain in July	2·37 inches.

Boston.—July 1, 2. Fine. 3. Cloudy. 4. Fine: thermometer 84° at 5 P.M. 5. Fine: therm. 91° at 2 P.M. 6. Fine: therm. 86° at 3 P.M. 7. Fine: therm. 81° at 3 P.M. 8. Fine. 9. Fine: therm. 89° at 2 P.M. 10, 11. Fine. 12. Cloudy. 13. Fine. 14. Cloudy. 15. Cloudy: rain, with thunder and lightning early A.M. 16. Fine: rain, with thunder and lightning P.M.: therm. 86°. 17. Cloudy: therm. 86° 3 P.M. 18. Fine. 19—22. Cloudy. 23. Fine. 24. Cloudy. 25. Fine: rain P.M. 26. Cloudy: rain A.M. and P.M. 27, 28. Fine. 29. Cloudy. 30. Fine. 31. Cloudy.

Sandwick Manse, Orkney.—July 1. Bright: cloudy. 2. Rain: cloudy. 3. Bright: cloudy: fine. 4. Cloudy: clear: fine. 5. Bright: clear: cloudy: thunder and lightning. 6. Rain: cloudy: fine. 7. Hazy: fine. 8. Bright: fine: fog. 9. Hazy: showers: thunder and lightning. 10. Bright: cloudy. 11. Bright: clear: fine. 12. Bright: fine: cloudy: fine. 13, 14. Bright: fine: clear: fine. 15. Bright: fine: cloudy: fine. 16. Hazy: fine: clear: fine. 17. Cloudy: rain. 18. Bright: cloudy: clear: fine. 19. Hazy: cloudy: clear: fine. 20. Bright: cloudy: rain: fine. 21. Rain: cloudy: fine. 22. Bright: hazy: fine. 23. Bright: fine: cloudy: fine. 24. Drops: fine: cloudy: fine. 25, 26. Cloudy: damp. 27. Damp. 28. Cloudy: fine: cloudy: damp. 29. Fog. 30. Rain: fog. 31. Damp: cloudy: damp.—This month has been remarkably fine and warm.

Mean temperature of July for twenty-five previous years	54·79
Mean temperature of this month	61°·36
Average quantity of rain in July for six years	2·71 inches.